



6AQ5-A

# BEAM POWER TUBE

7-PIN MINIATURE TYPE

With heater having controlled warm-up time

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## GENERAL DATA

### Electrical:

Heater, for Unipotential Cathode:

Voltage . . . . .	6.3	. . . . . ac or dc volts
Current . . . . .	0.45	. . . . . amp
Warm-up time (Average). . . . .	11	. . . . . sec

For definition of heater warm-up time and method of determining it, see sheet HEATER WARM-UP TIME MEASUREMENT at front of this Section.

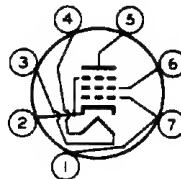
Direct Interelectrode Capacitances (Approx.):<sup>o</sup>

Grid No.1 to plate. . . . .	0.4	$\mu$ f
Grid No.1 to cathode & grid No.3, grid No.2, and heater. . . . .	8	$\mu$ f
Plate to cathode & grid No.3, grid No.2, and heater. . . . .	8.5	$\mu$ f

### Mechanical:

Operating Position. . . . .	Any
Maximum Overall Length. . . . .	2-5/8"
Maximum Seated Length. . . . .	2-3/8"
Length, Base Seat to Bulb Top (Excluding tip). . . . .	2" $\pm$ 3/32"
Diameter. . . . .	0.650" to 0.750"
Dimensional Outline. . . . .	See General Section
Bulb. . . . .	T5-1/2
Base. . . . .	Small-Button Miniature 7-Pin (JETEC No.E7-1)
Basing Designation for BOTTOM VIEW. . . . .	7BZ

Pin 1 - Grid No.1  
Pin 2 - Cathode,  
Grid No.3  
Pin 3 - Heater



Pin 4 - Heater  
Pin 5 - Plate  
Pin 6 - Grid No.2  
Pin 7 - Grid No.1

## AMPLIFIER — Class A<sub>1</sub>

Maximum Ratings, Design-Center Values:

PLATE VOLTAGE . . . . .	250	max.	volts
GRID-No.2 (SCREEN-GRID) VOLTAGE . . . . .	250	max.	volts
GRID-No.2 INPUT . . . . .	2	max.	watts
PLATE DISSIPATION . . . . .	12	max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode. . . . .	200	max.	volts
Heater positive with respect to cathode. . . . .	200 <sup>▲</sup>	max.	volts
BULB TEMPERATURE (At hottest point on bulb surface). . . . .	250	max.	°C

<sup>o</sup>, <sup>▲</sup>: See next page.

← Indicates a change.

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**Typical Operation and Characteristics:**

Plate Voltage . . . . .	180	250	volts
Grid-No.2 Voltage . . . . .	180	250	volts
Grid-No.1 (Control-Grid) Voltage. . .	-8.5	-12.5	volts
Peak AF Grid-No.1 Voltage . . . . .	8.5	12.5	volts
Zero-Signal Plate Current . . . . .	29	45	ma
Max.-Signal Plate Current . . . . .	30	47	ma
Zero-Signal Grid-No.2 Current . . . . .	3	4.5	ma
Max.-Signal Grid-No.2 Current . . . . .	4	7	ma
Plate Resistance (Approx.) . . . . .	58000	52000	ohms
Transconductance. . . . .	3700	4100	$\mu$ mhos
Load Resistance . . . . .	5500	5000	ohms
Total Harmonic Distortion . . . . .	8	8	%
Max.-Signal Power Output. . . . .	2	4.5	watts

**Maximum Circuit Values:**

## Grid-No.1-Circuit Resistance:

For fixed-bias operation. . . . .	0.1 max.	megohm
For cathode-bias operation. . . . .	0.5 max.	megohm

**AMPLIFIER — Class AB<sub>1</sub>****Maximum Ratings, Design-Center Values:**

PLATE VOLTAGE . . . . .	250 max.	volts
GRID-No.2 (SCREEN-GRID) VOLTAGE . . . . .	250 max.	volts
GRID-No.2 INPUT . . . . .	2 max.	watts
PLATE DISSIPATION . . . . .	12 max.	watts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode.	200 max.	volts
Heater positive with respect to cathode.	200 <sup>▲</sup> max.	volts
BULB TEMPERATURE (At hottest point		
on bulb surface). . . . .	250 max.	°C

**Typical Push-Pull Operation:***Unless otherwise specified, values are for 2 tubes*

Plate Voltage . . . . .	250	volts
Grid-No.2 Voltage . . . . .	250	volts
Grid-No.1 (Control-Grid) Voltage <sup>●</sup> . . . . .	-15	volts
Peak AF Grid-No.1-to-Grid-No.1 Voltage. .	30	volts
Zero-Signal Plate Current . . . . .	70	ma
Max.-Signal Plate Current . . . . .	79	ma
Zero-Signal Grid-No.2 Current . . . . .	5	ma
Max.-Signal Grid-No.2 Current . . . . .	13	ma
Effective Load Resistance (Plate		
to plate) . . . . .	10000	ohms
Total Harmonic Distortion . . . . .	5	%
Max.-Signal Power Output. . . . .	10	watts

°, ▲, ●: See next page.



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## Maximum Circuit Values:

### Grid-No.1-Circuit Resistance:•

For fixed-bias operation . . . . .	0.1 max.	megohm
For cathode-bias operation . . . . .	0.5 max.	megohm

## VERTICAL-DEFLECTION AMPLIFIER

Triode Connection†

## Maximum Ratings, Design-Center Values Except as Noted:

For operation in a 525-line, 30-frame system□

DC PLATE VOLTAGE . . . . .	250 max.	volts
PEAK POSITIVE-PULSE PLATE VOLTAGE* (Absolute maximum) . . . . .	1100■ max.	volts
PEAK NEGATIVE-PULSE GRID-No.1 (CONTROL-GRID) VOLTAGE . . . . .	250 max.	volts
PEAK CATHODE CURRENT . . . . .	105 max.	ma
DC CATHODE CURRENT . . . . .	35 max.	ma
PLATE DISSIPATION . . . . .	9 max.	watts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode .	200 max.	volts
Heater positive with respect to cathode .	200▲ max.	volts
BULB TEMPERATURE (At hottest point on bulb surface) . . . . .	250 max.	°C

## Characteristics:

Plate Voltage. . . . .	250	volts
Grid-No.1 Voltage. . . . .	-12.5	volts
Amplification Factor . . . . .	9.5	
Plate Resistance (Approx.) . . . . .	1970	ohms
Transconductance . . . . .	4800	μmhos
Plate Current. . . . .	49.5	ma
Grid-No.1 Voltage (Approx.) for plate ma. = 0.5. . . . .	-37	volts

## Maximum Circuit Values:

### Grid-No.1-Circuit Resistance:

For cathode-bias operation . . . . .	2.2 max.	megohms
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○ Without external shield.

▲ The dc component must not exceed 100 volts.

● The type of input coupling used should not introduce too much resistance in the grid-No.1 circuit. Transformer- or impedance-coupling devices are recommended.

† Grid-No.2 (Screen-grid) connected to plate.

□ As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission.

\* This rating is applicable where the duration of the voltage pulse does not exceed 15 per cent of one vertical scanning cycle. In a 525-line, 30-frame system, 15 per cent of one vertical scanning cycle is 2.5 milliseconds.

■ Under no circumstances should this absolute value be exceeded.

← Indicates a change.

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**CURVES**

For the 6AQ5-A, within its ratings, are the same  
as those shown for Type 6V6